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ABSTRACT

The nature, dynamics, and scope of the induction experience of beginning secondary vocational education teachers was examined. The study determined induction experiences encountered and compared induction experiences of teachers with formal teacher education programs (teacher education certified or TEC) to those without such preparation (nonteacher education certified or NTEC). A field-tested instrument collected usable demographic and induction experience information from 352 teachers out of a total sample size of 625. Descriptive statistics depicted gender, race, educational level, average salary, and average age of TEC and NTEC teachers. The NTEC teachers fared better than the TEC teachers, a higher percentage reporting "yes" on 18 of the 22 induction assistance items. TEC teachers were more likely to have planning time available before school started. NTEC teachers were more likely to have a mentor, orientation to vocational student organizations, an extra planning period for the first year, and a beginning teacher's handbook. Several conclusions were reached: vocational teachers are not served by induction programs; induction assistance needs are not being met; inservice training is regarded as important; and minor distinctions are being made between TEC and NTEC teachers. (27 references) (NLA)

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A COMPARISON OF INDUCTION EXPERIENCES OF BEGINNING VOCATIONAL TEACHERS WITH AND WITHOUT TEACHER EDUCATION BACKGROUNDS

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Betty Heath-Camp

Teachers work in whirlwinds of activity. They are surrounded by environments and by people that impose feverish paces of activity and decision-making. It is inevitable that such work environments would be rich both in opportunities and in problems. This is particularly true of novice teachers, whose set of activities includes not only those of experienced teachers, but problems resulting from learning and surviving in a very difficult profession and adjusting to a whole new lifestyle.

As Goodlad (1984) pointed out, vocational education teachers represent a major portion of the faculty in public secondary schools in this country. The National Assessment of Vocational Education (1988) reported that 97 percent of all public school students in America enroll in at least one vocational education course and that 20 percent of all coursework taken by U. S. high school graduates is in vocational education.

Background

The broad process by which a novice teacher becomes integrated into the profession of teaching has come to be known as induction (Huling-Austin, Odell, Ishler, Kay, & Edelfelt, 1989). In the professional life of a teacher, no period is more critical to success, even to professional survival, than the induction phase.

During the induction period, the novice teacher makes the transition from being a student or worker to become an established teacher. The induction process is not a simple one and it is often painful (Ryan, 1982). It is not defined by a definite set of time lines (Camp, 1988).

For the professionally educated teacher, the process of assimilation into teaching begins with the first course in teacher education or educational psychology and includes extensive preclinical, clinical, and simulated classroom and laboratory experiences (Berliner, 1985; Huffman & Leak, 1986; Johnson & Kay, 1987; Lortie, 1975; Roper, Hitz, & Brim, 1985). The experiences they encounter during the induction process surely must be affected by that educational background.

The traditional problems associated with the induction process for beginning teachers certainly hold true for beginning vocational education teachers (Waters, 1985). But, beyond that, large numbers of novice vocational teachers face additional problems because many of them have been certified based on occupational experience or degrees in technical areas rather than completion of teacher education degree programs. Indeed, many beginning vocational teachers enter teaching with little or no college education of any kind (Finch & O'Reilly, 1988).

Given that reality, Scott (1988) said, "One of the most critical issues facing vocational teacher educators . . . is how to provide an induction program that will reduce the many problems confronting first-year vocational teachers, many of whom have

little or no previous formal teacher training or college education" (p 99). He agreed with Bouchie (1987) that vocational teachers entering the profession directly from business and industry with little or no pedagogical training have different types of problems from other beginning teachers.

Theoretical Framework and Perspectives

Research reported by Buehler (1933), cited by Super, Crites, Hummel, Moser, Overstreet, and Warnath (1957) and later by Osipow (1973), proposed a general theory of human development. The Buehler model proposed that humans pass through four basic stages: growth, exploratory, maintenance, and decline.

Expanding on Buehler's work, Ginzberg, Ginsberg, Axelrad, and Herma (1951) proposed a general theory of occupational choice. Their model concentrated on the growth and early parts of the exploratory stages identified earlier by Buehler. In terms of the process of selection of a vocation, they proposed that individuals pass through a series of stages they labeled fantasy, tentative, and realistic. Their fantasy stage occurred in early childhood and involved child-like visualization of self as an adult. The tentative stage involved the gradual recognition by children that they has certain interests and abilities and that those might be somehow related to the concept of occupation. Their realistic stage occurred in later adolescence and involved a conscious balancing of self against occupation as a means of arriving at an occupational choice.

Osipow (1973) pointed out that the Ginzberg, et al, theory of occupational choice was extremely influential in the field of vocational development. Yet, as he reported, their theory received wide-spread criticism, in particular from Donald Super, who was becoming a central figure in the field.

Super, et al (1957) proposed a more comprehensive theory of vocational development that expanded on the Buehler (1933) and Ginzberg, et al (1951) work. They posited a life-stage model with roughly corresponding age-spans as indicated in Figure 1. Super's work remains one of the definitive theories of occupational development and is described regularly in the current literature on personal adjustment and human development (as in Borocas, Reichman, & Schewebel, 1983; Belkin, & Nass, 1984).

For the typical teacher-education graduate entering teaching directly from college, the induction process might be expected to begin at the exploratory-trial developmental stage (age 22-24). One would expect substantial instability, unrealistic expectations, and false starts at that stage of vocational maturity. At some point, one would expect these teachers to progress into the establishment-trial stage and thus to gain both in vocational maturity and stability.

Teachers entering vocational education from an extensive occupational experience background could be expected to enter the profession at an age that would be at the establishment stage of vocational development. While adjustment problems would still be

expected, one would expect somewhat greater stability, more realistic expectations, and fewer false starts from such a group.

Figure 1. Stages of Vocational Development Proposed by Super, Crites, Hummel, Moser, Overstreet, and Warnath (1957).

STAGE	Age Range
Growth	Birth - 14
Fantasy	4 - 10
Interest	11 - 12
Capacity	13 - 14
Exploration	15 - 24
Tentative	15 - 17
Transition	18 - 21
Trial	22 - 24
Establishment	25 - 44
Trial	25 - 30
Stabilization	31 - 44
Maintenance	45 - 64
Decline	65 - Death

Francis Fuller (1969) presented an early model of preservice and beginning teacher socialization that later proved valuable in conceptualizing the induction process. Her research gave rise to a three-stage model for teacher professional development that Waters (1988) described as consisting of self, task, and impact stages.

In this model, the teacher progresses from a primary concern with day-to-day survival (self stage) to a period in which the primary concern is how to be an effective teacher (task stage). At long last, the successful teacher eventually comes to be concerned primarily with the long-term effects of his or her instruction on the student (impact stage). Ryan (1986) later added what he called a fantasy stage during which prospective and new teachers may hold unrealistically high expectations for themselves and their students. He then used the terms fantasy, survival, mastery, and impact to describe his four-stage model.

Purpose and Objectives

The broad purpose of the research of which the present paper was a part, was to examine the nature, dynamics, and scope of the induction experience of beginning teachers of vocational education at the secondary level in American public schools. The specific objectives of the research being reported here were:

1. to determine the kinds of induction experiences encountered by beginning teachers of vocational education; and
2. to compare the induction experiences of those teachers whose backgrounds include formal programs of teacher education and those without such preparation.

For the purpose of this study, teachers who entered the profession with traditional teacher-education backgrounds are referred to as **TEC** (teacher-education certified) teachers and those who entered the profession through an alternative route, such as vocational certification based on occupational experience or a

technical degree, are referred to as **NTEC** (non-teacher education certified) teachers.

Instrumentation

To address the research questions, we needed an instrument that would collect data in two areas. First, demographics of concern would be collected. The second part of the instrument would collect data on the school-related events that affect the nature of the induction experience for the teachers. No existing instrument was found to meet the specific needs of the study, so one had to be developed.

The first stage of the research consisted of a series of nominal group technique (NGT) sessions with 10 purposefully-selected samples of beginning public school, secondary-level vocational teachers. The samples were selected from eight different states across the country, from Florida to Washington. Each sample of beginning vocational teachers was selected to represent all of the traditional vocational service areas as well as TEC and NTEC teachers.

Based on results of the nominal group sessions as well as an extensive literature review, the research team developed a draft survey designed to provide a quantitative picture of the induction assistance being received by beginning vocational teachers. The survey contained a list of 22 kinds of induction assistance that had arisen from the qualitative data and literature review. To provide further validation, the draft instrument was submitted to two separate panels for review. The first was a panel of four

teacher educators who regularly work with preservice and beginning vocational teachers. The second was a group of 30 vocational teachers employed at a local high school. A few minor editorial revisions resulted from the suggestions of the two review panels.

The list was then incorporated into a field-test draft instrument. A scale, "OCCURRED," was added to ask the teachers whether they had experienced the particular form of assistance during their first year of teaching. The "OCCURRED" scale was in the form "Yes/No."

The instrument was then field-tested with a group of beginning vocational teachers from one of the states that was not being selected to receive the survey (n = 23). Those teachers received the survey by mail and were asked to complete the instrument and provide their comments on the completeness, accuracy, readability, and clarity of the instructions, the items, and the scale. An examination of their responses revealed no systematic problems in the instrument and indicated that the OCCURRED scale produced what appeared to be appropriate responses.

For the purposes of this analysis, the OCCURRED scale is a non-additive list of 22 conceptually independent items which either occurred or did not. To the extent that the respondent's answer accurately reflects his or her experience, reliability of the instrument was taken to be stability and mechanical reliability, which were evidenced by the validation and field-test panels' conclusions regarding the clarity, simplicity, and readability of the survey itself.

Sample

To secure a nationally representative sample, the researchers selected a stratified random sample of 15 states based on their respective proportions of the U. S. population (World Almanac and Book of Facts, Hoffman, 1989). State directors of vocational education in the selected states were contacted by mail and by telephone. They assisted us in securing lists of mailing addresses of all of their states' "first-year vocational teachers."

Using the tables for sample size in Hinkle, Oliver, & Hinkle (1985), with alpha = .05, effect size = .10, and power = .95, the required sample size for a two-tailed one-sample survey was computed to be 325. Using the logic presented later in the same article, the researchers elected to oversample based on the assumption of a less than 100% response rate. Additionally, previous experience indicated that we could expect a proportion of the persons to be incorrectly identified as "beginning vocational teachers."

From the initial responses, it became clear within about a week that as many as 25% of the teachers had been incorrectly identified as "first year teachers" by their directors. In many cases, the teachers had simply moved from one school to another or from one state to another. This was quite consistent with our earlier experiences in the qualitative sample (NGT) selections.

To correct for the anticipated misidentification of beginning teahcers and to compensate for a less-than 100% response rate, we set a total sample size of n = 625.

Methodology

The survey instrument, which included a cover letter explaining the study was mailed to the beginning teachers in Spring, 1990. Using Dillman's Total Design Method (Dillman, 1978), the research team conducted three mail follow-ups. A total response of rate of 76.3% (n = 477) was achieved. The first question asked the teacher to indicate whether he or she was actually a first year teacher. Persons who answered "no" were instructed to indicate their actual status and return the uncompleted survey. In general, the "no" respondents explained that they were new to the subject, school, school district, or even state, but were not actually "beginning teachers." Of the responses returned, 26.3% indicated they were not first year teachers. Thus, the number of usable responses was 352.

Unfortunately, by the time mailing lists were secured and the data collection was complete, the school year was over in part of the states selected. Because of Privacy Act concerns, the schools could not provide home addresses or telephone numbers of the non-respondents, so telephone follow-ups were impossible. A comparison of the demographics and selected responses of the early and late responders, as suggested by Miller and Smith (1983), failed to show any significant differences.

Analysis

Data collected from the national survey were computer coded and the SAS statistical package was used to provide analysis. The data reported under question one were analyzed using descriptive

techniques. For the analysis of differences between the TEC and NTEC teachers, a more innovative treatment was needed. The analytical procedure will be described in detail in the next paragraph.

Because the independent variable in this analysis is source of certification and the multiple dependent variables are the responses to the OCCURRED scale for each of the 22 items, traditional multivariate methods offer little potential to analyze the data on a "total-model" basis. However, using the proportion of the TEC teachers responding "yes" as one variable (P_{1i}) and the proportion of NTEC teachers responding "yes" as a paired variable (P_{2i}), it was possible to construct a third variable (delta, represented in Figure 2 as D_i) to represent the difference between the two proportions, see Table 2. We then used a simple t-test to determine if the mean of the delta variables was significantly different from 0 (Personal communication, R. Myers, Professor of Statistics and Head, Statistical Consulting Laboratory, Virginia Polytechnic Institute and State University, May, 1991). The procedure involved is shown in simplified form below (Figure 2).

Figure 2. Procedures used to test the whole-model hypothesis of no difference between TEC and NTEC teachers.

$D_i = P_{1i} - P_{2i}$

$MD = SUM(D_i) / 22$, MD = Mean, D_i

$t = MD / s_e (MD)$, s_e = Standard Error, D_i

$n = 22$, $df = 21$

H_o: $MD = 0$.

Results

Demographics

A brief profile of beginning vocational teachers would be useful before discussing the details of their induction experiences. See Table 1.

We found that the teacher-education graduates were dominated by females and the teachers with occupational or alternative certification were mostly males. Both groups were almost exclusively (89%) Caucasian.

The NTEC teachers were 6.1 years older than their counterparts with teacher-education degrees. But it is worthy of note that the teacher-education graduates had an average age of almost 30 years at the end of their first year of teaching. Beginning salaries for NTEC teachers were also higher by a mean of $2,235 than for the TEC teachers.

Interestingly, a clear majority of the NTEC teachers did not hold bachelors degrees. We looked further at the data for those teachers and found that 27 were high school graduates or held GEDs,

24 held associate degrees, and 35 had completed occupational programs at postsecondary vocational-technical institutions.

Table 1.
Selected Characteristics of Beginning Vocational Teachers in the United States, 1989-90. N = 352

	TEC	NTEC	TOTAL
Gender			
Males	79	99	178
Females	123	51	174
Race			
Caucasian	186	126	312
Hispanic	2	5	7
African-American	10	16	26
Others	3	3	6
Missing Data	1		1
Education Level			
Less than Bachelors	1	86	87
Bachelors Degree	170	50	220
Grad. or Prof. Degree	31	14	45
Average Salary	$20,922	$23,157	$21,870
Average Age	29.5	35.6	32.1
Total Number	202	150	352

Notes: TEC - Teacher-Education Certified
NTEC - Non-Teacher-Education Certified (certification based on occupational experience and alternate degrees)

Induction Experiences Encountered

The next research question dealt with differences in induction experiences between teachers with and those without teacher education backgrounds. A cursory examination of the data reported in Table 2 indicated little obvious difference between the two

groups. However, using the procedure previously described for a whole-model analysis, we did find a statistically significant difference between the two groups.

For that analysis, an alpha-level on the whole-model analysis was set at .05. The computed t-statistic of 7.16 ($p < .01$) was significantly different from 0, leading to the conclusion that, taken as a whole, the kinds of assistance received were different for the two groups of teachers. Alpha levels for the subsequent analyses (also t-tests) to determine which of the specific items were different for the two groups was set at .01. The more conservative alpha was set to reduce the inherent error in multiple univariate tests of significance, even though the whole-model analysis indicated a significant difference.

An examination of Table 2 shows that for most forms of assistance, the NTEC teachers generally fared better than the TEC teachers, having a higher percentage reporting "yes" on 18 out of the 22 items (only 4 being significantly different). The TEC teachers reported experiencing only four forms of assistance more often (only one being significantly different). With alpha = .01, there were five forms of assistance for which the reported frequency were significantly different for the two groups of teachers, see Table 2.

Table 2.
Percentages of TEC and NTEC Teachers Who reported that They Had Experienced Various Forms of Induction Assistance. N = 352

	TEC	NTEC	Delta*	
Planning time was available before school started.	73.0	59.3	.136	**
Extra duties (bus, etc.) reduced for beginning teachers.	31.8	42.0	.102	
A mentor or buddy teacher was provided.	52.0	69.9	.178	**
An orientation on school policies was given.	75.0	68.3	.067	
Curriculum guides are available for my program area.	75.1	75.1	.000	
Time was available to observe other teachers teaching.	32.7	27.8	.049	
An orientation tour of school facilities was given.	58.9	51.8	.071	
A workshop for new teachers was held	55.1	62.3	.073	
A Vocational Student Organization orientation was held.	11.2	27.1	.159	**
An in-service on counseling students was provided.	15.2	17.9	.028	
An in-service on classroom management was provided.	30.3	33.6	.033	
An in-service to explain the curriculum was provided.	16.7	24.7	.080	
An inservice on time and stress management was provided.	25.9	22.6	.033	
Extra planning period was provided for beginning teachers.	13.6	29.0	.153	**
My principal provided helpful evaluation and feedback.	75.8	78.6	.029	
Information on purchasing supplies/equipment was provided.	55.0	55.9	.008	
Adequate materials, textbooks, & workbooks are provided.	62.9	68.8	.058	
My students' parents provide support for my program.	57.2	45.6	.116	
A list of available resources and vendors was provided.	46.0	48.3	.023	
A beginning teachers' handbook was provided.	42.4	61.1	.187	**
Clerical support was provided for beginning teachers.	43.6	49.3	.057	
A teacher's aide was provided to beginning teachers.	13.1	16.6	.034	

Notes: TEC - Teacher Education Certified
NTEC - Non-Teacher Education Certified
* $t = 7.16$ for H_0: Delta Mean = 0
$p\ (t_{21} > 7.16) < .0001$
** Significantly different at $p < .01$

An examination of Table 2 shows that the variables with significant differences were as follows:

1. Teacher-education certified (TEC) teachers were more likely to have planning time available before school started, see Table 2.
2. Teachers coming into the profession from other routes (NTEC) were more likely, see Table 2, to have:
   a. a mentor or buddy teacher,
   b. an orientation to vocational student organizations,
   c. an extra planning period for the first year, and
   d. a beginning teachers' handbook.

Conclusions

In spite of the growing recognition of the importance of induction assistance programs for beginning teachers, vocational teachers are generally not being served by such programs. Slightly more non-teacher education certified than teacher-education certified teachers receive various forms of induction assistance. Even with those, however, the proportion being assisted is dismally low.

Even the most fundamental induction assistance needs are not being met by an alarming proportion of beginning vocational teachers. Provision of a curriculum guide for organizing a course that one has never taught seems so basic that it is disappointing to find almost a quarter of beginning vocational teachers not receiving one. By the end of the first year of teaching, one

should reasonably expect the school principal to have visited a beginning teacher's class and provided evaluation and feedback. Even that was lacking for almost one-fourth of the respondents.

Beginning vocational teachers regard inservice as very important -- many different forms of inservice. But, very little of the specific types of inservice perceived as important (e.g. classroom management, student counseling techniques, curriculum) is being provided. Even a beginning teachers workshop was provided to only about half of the respondents.

As a whole, the kinds of induction assistance experienced by those teachers with and without teacher education backgrounds were different. Given that, there were significant and meaningful differences for only five items. Significant differences notwithstanding, this indicates that in spite of the obvious differences in their training and experience, only minor distinctions are being made between teachers entering the classroom from teacher education backgrounds and from industry backgrounds.

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